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ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER	
BATTULA, PRADEEP CHOUDARY	

ART UNIT	PAPER NUMBER
3725	

NOTIFICATION DATE	DELIVERY MODE
01/07/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/504,816	HEIM, MANFRED	
	Examiner	Art Unit	
	PRADEEP C. BATTULA	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,17-26,28-33,39-41,43 and 45-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-15,17-20,22-26,28-33,39-41,43,45 and 46* is/are rejected.

7)☒ Claim(s) *9,21 and 47-49* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is a third non-final in reply to the response filed on October 20, 2008

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 6 – 7, 10, 11 – 13, 15, 17 18 – 20, 22 – 25, 31, 33, 39, 40 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caporaletti et al. (Caporaletti; U.S. 6,686,027) in view of Bonkowski et al. (Bonkowski; U.S. 6,761,959) and Phillips et al. (Phillips; U.S. 2004/0101676).

In regards to Claims 1, 18, 33, 39, 40 Caporaletti security document, or semifinished product for producing the security document (Column 1, Lines 7 – 8), comprising a substrate 10 Column 3, Lines 9 – 11; Figure 1, Item 10) with first and second opposing substrate surfaces (inherent since every substrate has two surfaces) and a multi-layer security element 30 (Column 3, Lines 20 – 22, 45 – 52; Figure 1, Item 30) the security element is also semitransparent (Column 3, Lines 12 – 13, Column 4, Lines 19 – 29; Figure 3; dielectric layer [at least one] is semitransparent) and is so connected with the substrate that it is visually recognizable at least from one of the two substrate surfaces (Column 3, Lines 24 – 25; Security element 30 can be considered one element on both sides), wherein the security element includes a multi-layer interference element 52 (Column 4, Lines 22 - 25) producing a color shift effect (Column

2, Lines 51 – 53), a color shift effect produced by the interference element is visually recognizable from both sides of the security element depending on the way of viewing the security element (Column 3, Lines 24 – 25; Column 4, Lines 49 – 61; security element can be on both sides or viewed through a window 32 so visible on both sides).

Caporaletti does not disclose a layer with diffraction structures that at least partly overlaps the interference element, the interference element has gaps in at least one absorber layer, and the diffraction structures directly adjoin the interference element wherein an effect caused by at least one of the diffraction structures.

Bonkowski teaches of a security element that teaches of a color shift optical coating 16 which further comprises an absorber layer 18 and reflective layer 22 (Column 6, Line 65; Column 7, Lines 1 – 3; Figure 1B, Items 18, 22) and further having diffraction structures 15 directly adjoining the interference element (Column 4, Lines 12 – 17, Column 6, Lines 59 – 62; teaches of the diffraction features in invention 10 but similar are done in 30; Figure 1B, Item 15) wherein the diffraction structure has at least one effect (Column 4, Lines 26 – 32). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the additional color shifting features (substrate, reflector and absorber layer) with diffraction structures as taught by Bonkowski in order to provide a color shifting effect element in order to provide a more robust element which is more difficult to counterfeit (Column 2, Lines 37 – 39)

Caporaletti modified by Bonkowski does not disclose the interference element has gaps in at least one absorber layer.

Phillips teaches of a similar security element as taught by Bonkowski (reflector, dielectric and absorber layers) 116 with a laser ablated image 118 which can take the form of digital images bar codes, covert (microscopic) data and information, or combinations thereof (Paragraph 0091). The laser ablation as taught by Phillips is in all of the interference layers (Fig. 10B). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide information in the form of gaps in the interference element of Caporaletti in order to provide information in the interference element and further enhance the security element.

In regards to Claims 17, Caporaletti modified by Bonkowski and Phillips further discloses wherein the effect caused by at least one of the diffraction structures and the color shift effect produced by the interference element are of identical design from both sides of the security element depending on the way of viewing the security element (Column 3, Lines 24 – 25; Column 4, Lines 49 – 61; security element can be on both sides or viewed through a window 32 so visible on both sides; Caporaletti).

In regards to Claims 6, 7, 19, Caporaletti modified by Bonkowski and Phillips further discloses wherein the interference element is present on a transparent plastic substrate which is colored (Column 3, Lines 11 – 15; Caporaletti; applicant claims transparent substrates can be colored therefore Caporaletti's substrate can be colored).

In regards to Claims 12, 24, Caporaletti modified by Bonkowski and Phillips further discloses wherein the plastic substrate 14 has the diffraction structures (Column 4, Lines 41 – 50 teaches of plastic substrates; Figure 1B, Item 14).

In regards to Claims 1 (previously discussed, limitations still apply but this is another interpretation/rejection), 8, 10, 11, 20, 22, 23, 31, 41, and 42, Caporaletti modified by Bonkowski and Phillips does not disclose wherein the interference element includes a first absorber layer, a dielectric layer adjoining and overlying the first absorber layer and a second absorber layer adjoining and overlying the dielectric layer and wherein the layers constituting the interference element are vapor-deposited and wherein the gaps are in the form of signs, patterns or encodings.

Argoitia teaches of a security element comprised of a series of security foils creating an interference element (Paragraph 0059; foils applied to a substrate making an element; Paragraph 0096) wherein the layers of the interference element have diffraction structures overlapping wherein an effect is caused by at least one of the diffraction layers (Paragraph 0097; Paragraph 0098). Argoitia teaches the interference element includes a first absorber layer, a dielectric layer adjoining and overlying the first absorber layer and a second absorber layer adjoining and overlying the dielectric layer (Paragraph 0174) and wherein the layers constituting the interference element are vapor-deposited (Paragraph 0067). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the additional layers to Bonkowski's interference elements with the methods as taught by Argotia in order to allow for other embodiments of Bonkowski to be produced with the same method (Column 4, Lines 62 – 67 teach of vapor deposition for one embodiment). Furthermore, color shifting is further well known in the art with such layers (Phillips; U.S. 5,214,530)

Caporaletti modified by modified by Bonkowski and Argotia does not disclose wherein the gaps are in the form of signs, patterns, or encodings.

Phillips teaches of a similar security element as taught by Bonkowski structure with 116 with a laser ablated image 118 which can take the form of digital images bar codes, covert (microscopic) data and information, or combinations thereof (Paragraph 0091). The laser ablation as taught by Phillips is in all of the interference layers (Fig. 10B). Therefore it would have been obvious to a person having ordinary skill in the art at the time of the invention was made to substitute the security element of Caporaletti modified by Bonkowski and Argotia with ablated laser codings in as taught by Phillips to provide banknotes and the like with a color shift effect viewable from both sides of the reflective element and laser etching (gaps) to further enhance security.

In regards to Claims 13, 25, Caporaletti modified by Bonkowski and Phillips further discloses wherein the diffraction structures are present in a separate layer (Figure 1b of Bonkowski).

In regards to Claims 41, 42, 43, and 44 it is taught that the symbols are in one layer (external layers are the absorber layers), however it would be obvious to try to only have the symbols in one layer since there are only a finite number of layers one can apply symbols and such an application of indicia is well within the technical grasp of one having ordinary skill.

In regards to Claim 15, Caporaletti modified by Bonkowski (Argotia not needed since not same claim trail) and Phillips further discloses wherein an effect caused by the diffraction structures is visually recognizable from at least one of the sides of the

security element depending on the way of viewing the security element (Column 3, Lines 24 – 25; Column 4, Lines 49 – 61; security element can be on both sides or viewed through a window 32 so visible on both sides; this would also apply to having diffraction structures on the layers; Caporaletti).

2. Claim 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caporaletti in view of Bonkowski, Phillips and Howland et al. (Howland; U.S. 6,089,614).

In regards to Claim 2, Caporaletti modified by Bonkowski and Phillips does not disclose wherein the security element is applied to one of the two substrate surfaces and spans a hole or a transparent area in the substrate.

Howland teaches of providing a security device in a region that is transparent. Therefore it would have been obvious to a person having ordinary skill in the art to apply Caporaletti's invention in a transparent area of a substrate in order to insure that Caporaletti's invention can be viewed from both sides of the security document in which it is applied (Column 6, Lines 42 – 46).

In regards to Claim 3, Caporaletti modified by Bonkowski and Phillips further discloses wherein the security element is at least partly embedded in the substrate (Column 2, Lines 41 – 45; Caporaletti)

Caporaletti modified by Bonkowski and Phillips does not disclose wherein the security element spans a hole or a transparent area in the substrate.

Howland teaches of providing a security device in a region that is transparent. Therefore it would have been obvious to a person having ordinary skill in the art to apply Caporaletti's invention in a transparent area of a substrate in order to insure that

Caporaletti's invention can be viewed from both sides of the security document in which it is applied (Column 6, Lines 42 – 46).

In regards to Claim 4, Caporaletti modified by Argoitia and Phillips further discloses wherein the security element is so embedded in the substrate (Column 2, Lines 41 - 45) that it is visually recognizable in first areas of the substrate on the first substrate surface and optionally additionally in the second areas of the substrate different from the first areas on the second substrate surface (Column 6, Lines 42 – 46 – Howland; (Column 3, Lines 24 – 25; Column 4, Lines 49 – 61; security element can be on both sides or viewed through a window 32 so visible on both sides – Caporaletti).

3. Claims 3, 4, 14, 26, 28 – 30 are rejected under 35 U.S.C. 103(a) as also being unpatentable over Caporaletti in view of Bonkowski and Phillips.

In regards to Claim 3, 4, 28 Caporaletti modified by Bonkowski and Phillips further discloses wherein the security element is at least partly embedded in the substrate (Column 2, Lines 41 – 45; Caporaletti)

Caporaletti modified by Argoitia and Phillips does not disclose the security element is a security thread.

Bonkowski teaches that the security element can be incorporated as a security thread (Column 8, Lines 57 – 65). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Caporaletti's invention as a security thread in order to provide the security article with various uses in several applications (Column 1, Lines 8 – 13).

In regards to Claims 29, 30, 32, Caporaletti modified by Bonkowski and Phillips does not disclose the security element is a label and is a transfer element to be applied to a security document by a transfer method and transferred in certain areas.

Bonkowski teaches that the security element can be incorporated as a label or patch (Column 8, Lines 57 – 65). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Caporaletti's invention as a security thread in order to provide the security article with various uses in several applications (Column 1, Lines 8 – 13). Furthermore, it is well known that labels are generally transferred from a liner and labels are applied to certain areas. Considering it is a security element there is inherently a particular location in which it would be most useful.

In regards to Claims 14, 26, Caporaletti modified by Bonkowski and Phillips does not disclose wherein the diffraction structures include an embossed relief pattern.

Bonkowski teaches the security element having diffraction patterns which are embossed relief patterns (Column 4, Lines 25 - 40). Therefore it would have been obvious to a person having ordinary skill in the art to emboss the diffraction patterns on the layers of Caporaletti modified by Bonkowski and Phillips since providing the structures can only be done by a finite number of methods one having ordinary skill in the art would try embossing as this is well within the technical grasp of one having ordinary skill in the art.

In regards to Claims 45 and 46, as applied to Claims 1 and 45, Caporaletti modified by Bonkowski and Phillips discloses the claimed invention except for the

particular range of transparency for the interference element, however only a finite percentage of transparency can be used and one having ordinary skill in the art has skill well within their technical grasp to try different transparencies or transparency as claimed for the particular security and interference elements. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the transparency of the interference element under 90 percent or between 80 and 20 percent, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Allowable Subject Matter

Claims 9, 21, and 47-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments, see Remarks, filed October 20, 2008, with respect to the use of Argoita have been fully considered and are persuasive. The rejection of the claims have been withdrawn.

Applicant's arguments filed October 20, 2008 have been fully considered but they are not persuasive in regards to the use of Caporaletti, Howland, and Bonkowski.

With respect to the art of Caporaletti not disclosing that the interference element is semitransparent, the prior art teaches that some portions of the interference element contain semitransparent portions and therefore the interference element is semitransparent (Column 4, Lines 19 – 29 shows that the dielectric film is composed of a semitransparent medium). The Claims do not require that the element be semitransparent to view or all layers making it semitransparent.

With respect to the art of Bonkowski being of a hologram, Bonkowski is not only teaching of a hologram and only provides a hologram as one such possibility. Furthermore, a hologram is not ruled out by the limitations of claim 1 as a hologram does have color shift.

With respect to Howland, the art is merely teaching of providing a security element in a transparent area so that the element can be seen from both sides. The type of element that is taught is not relevant as the reference is merely teaching of viewing an element from two surfaces based on the substrate it is placed on.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRADEEP C. BATTULA whose telephone number is (571)272-2142. The examiner can normally be reached on Mon. - Thurs. & alternating Fri. 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on 571-272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. C. B./
Examiner, Art Unit 3725
December 23, 2008

/Dana Ross/
Supervisory Patent Examiner, Art Unit 3725